

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C. 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 06 December 1999 (06.12.99)	
International application No. PCT/IB99/00708	Applicant's or agent's file reference 7129/VJ
International filing date (day/month/year) 21 April 1999 (21.04.99)	Priority date (day/month/year) 27 April 1998 (27.04.98)
Applicant ANGELL, Adrian, John, Waynforth et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
25 October 1999 (25.10.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer J.M. Vivet Telephone No.: (41-22) 338.83.38
--	---

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 7129/VJ	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IB99/00708	International filing date (day/month/year) 21/04/1999	Priority date (day/month/year) 27/04/1998
International Patent Classification (IPC) or national classification and IPC C11D17/00		
Applicant THE PROCTER & GAMBLE COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 9 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 25/10/1999	Date of completion of this report 29.06.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Hindia, E Telephone No. +49 89 2399 8492



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IB99/00708

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-25 as originally filed

Claims, No.:

1-14 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	13,14
	No:	Claims	1-12
Inventive step (IS)	Yes:	Claims	13
	No:	Claims	1-12,14
Industrial applicability (IA)	Yes:	Claims	1-14
	No:	Claims	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB99/00708

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Item V

Reasoned statement under Article 35(2) PCT with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents from the International Search Report have been considered for the purposes of this report:

D1 = US-A-4451386

D2 = EP-A-0576234

2. **Novelty**

Present claim 1 does not comply with the requirements of Article 33(2) PCT for the following reasons:

- 2.1 The term "low" used to specify the density of the detergent particles" in step (a) of the process claimed in claim 1 is a relative and indefinite expression, because the value of the respective density as such is not defined. Moreover, the expression "detergent" used to specify the particles in step (a) does not specify the particles by their chemical structure, but merely indicate their use in a detergent, i.e. in a product having cleaning properties. Thus, in examining novelty the term "detergent particles" has been interpreted as including any particles comprised in a detergent. Furthermore, in the same step (a) there is given a value of 5% to 90% by volume of "intra-particle porosity". Since the particular method conditions for obtaining this value are not defined in claim 1, it is not possible for the skilled worker to determine the said value when reading claim 1. Thus, in assessing novelty of present claim 1 the said porosity indicated in step (a) cannot be regarded as a feature delimiting the process in claim 1 from the prior art and therefore it has not been taken into account.

In step (b) of claim 1 the amount of the added liquid is defined in terms of the achieved reduction of "intra-particle porosity", i.e., step (b) of claim 1 as worded attempts to define the subject-matter in terms of the desired result to be achieved, rather than in structural terms. Since the actual amount of the liquid to be added is not defined as such, the skilled worker when reading step (b) does not know actual amount of the liquid to be added. Thus, in examining novelty of claim 1, the present definition of the liquid amount cannot be regarded as a feature delimiting

the process in claim 1 from the prior art and therefore it has not been taken into account. The same objection also applies for the feature "a pressure in an amount sufficient to form said water-dispersible, non-particulate detergent product having a density of at least 1000 g/l" in step (c), since the actual value of the pressure to be applied is not defined as such.

With respect to the above comments, in examining novelty of the subject-matter of claim 1, the process has been interpreted as a process characterized by the following structural features: providing porous particles suitable to be used in a detergent, adding a liquid to the said particles and compacting them to a non-particulate detergent product.

D1 discloses a process for producing detergent tablets suitable for use as laundry detergents and having improved solubility, wherein the process comprises the following steps: providing spray dried base beads (phosphate builder salt and alkali metal silicate) material having a porous, sponge-like outer surface, combining said beads with a liquid organic detergent to a mixture and compressing the said mixture to form tablets (see in D1 claim 1, column 3, lines 50-57, column 6, lines 20-64, column 11, lines 6 and 7 and examples 1-7). The porous beads used in D1 are regarded as "detergent particles", since they are comprised in the detergent tablet produced by the process in D1. Thus, the teaching of D1 is novelty-destroying for the subject-matter of present claim 1.

- 2.2 The subject-matter of claims 2 to 12 is also known from D1 for the reasons put forward against claim 1 above. With respect to the subject-matter of claim 11 it is pointed out, that the claim as worded is a claim for a product, i.e. a detergent product, defined in terms of a process for its formation. As regards novelty of present claim 11 over the prior art, it is pointed out, that the product in claim 11 as worded has to be interpreted as comprising the only structural feature of being a water-dispersible non-particulate detergent product. Therefore, any document relating to water-dispersible detergent tablets, such as D1 is novelty-destroying for present claim 11. The product is not rendered novel, merely by the fact that it is produced by means of a new process. The product, i.e. its composition as such must be novel over the prior art; however, in claim 11 the actual composition of the detergent product is not further specified.

- 2.3 Having regard to the prior art documents cited in the International Search Report, the subject-matter of claims 13 and 14 appears to be novel, since the process and the method, respectively characterized by the particular features as claimed, are not disclosed in the available prior art.

3. Inventive Step

Present claims 1 to 12 and 14 do not comply with the requirements of Article 33(3) PCT for the following reasons:

The problem addressed by the present application is to provide a process for making a non-particulate detergent composition which rapidly disintegrates and dissolves in water. The problem has been solved by the particular process and product features defined in claims 1 to 12. In view of the Examining Division the closest prior art for the process in claim 1 is represented by document D1 which is dealing with the problem of providing a process for producing a detergent tablet which rapidly dissolves in water. The process in D1 comprises the same process steps and employs the same compounds as defined in present claim 1. Thus, the teaching of D1 is both novelty-destroying and also inventivity-destroying for present claim 1, since the process in present claim 1 has already been disclosed to solve the same problem as posed in the application, i.e., to provide a detergent tablet which rapidly dissolves in water. Since the features of claims 2 to 12 are also known from D1, the solutions proposed in these claims cannot be considered as involving an inventive step. The subject-matter of claim 14 differs from the teaching of D1 in that D1 does not disclose to use the laundry detergent tablet in a bag. However, D2 discloses a method of laundering fabric materials wherein a bag comprising a detergent tablet is used. Thus, the skilled person starting with the method in D2 would regard it as a normal design option to use the detergent tablet of D1 according to the method in D2 and thus arrive at the subject-matter of claim 14 without the exercise of inventive skill. Furthermore, the experimental part of the application does not demonstrate the attainment of an unexpected effect or advantage based on the subject-matter of claims 2 to 12 and 14 in view of the teaching of D1 and D2, which would enable an inventive step to be acknowledged.

- 3.1 Present claim 13 complies with the requirements of Article 33(3) PCT for the

following reasons:

Claim 13 is directed to a process for producing a non-particulate detergent product wherein a liquid is added to a specified detergent composition provided in steps (a) to (c) and then the detergent composition is compacted to provide the non-particulate detergent product. The subject-matter of claim 13 involves an inventive step, since the combination of process features and in particular with respect to the features as specified in steps (a) to (c) cannot be derived in an obvious manner from a reading of the closest prior art document D1 dealing with the problem of providing detergent tablets having improved solubility in water, since the document does neither disclose nor suggest to use a detergent composition as defined in said steps (a) to (c) in preparing the detergent tablet.

4. Present claims 1 to 14 comply with the requirements of Article 33(4) PCT (industrial applicability).

Item VII

Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

1. The application does not meet the requirements of Rule 5.1(a)(ii) PCT, since documents D1 and D2 which represent relevant prior art are not identified in the description and the relevant background art disclosed therein is not briefly discussed.
2. The trade mark "Nymcel ZSB-16" on page 23 is not identified as such.
3. The application does not meet the requirements of Rule 10.1(a) PCT, since the non-metric units "microns" and "gallon" used in the description on page 13 and "Torr" used on page 20 have not been replaced by the appropriate metric units.
4. The international application must disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art (Article 5 PCT). Because of the wording "incorporated herein by reference" used in the present description, which is regarded as introducing ambiguity, the

requirements of Article 5 PCT are not met.

Item VIII

Certain observations on the international application

The following observations on the clarity of the claims, description and drawings or on the question whether the claims are fully supported by the description, are made:

1. Although claims 1 and 13 have been drafted as separate independent process claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought in respect of the particulate detergent particles used in process step b) of claim 1 and the corresponding process step d) in claim 13. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection. The same objection also applies for claims 12 and 14 both relating to a method of laundering with the only difference being the use of the detergent product in a bag as defined in claim 14. Hence, claims 1 and 12 to 14 do not meet the requirements of Article 6 PCT.
2. The term "low" used to specify the density of the detergent particles in claims 1, 11 and 13 is a relative and indefinite expression, which does not define the precise value of the density as such and therefore, when reading the claims it is not clear which particular density the employed detergent particles should have. Thus, this term renders the definition of the subject-matter of said claims unclear (Article 6 PCT) and makes it impossible to determine the matter for which protection is sought so that an undue burden is placed on others seeking to establish the extent of the protection. The present unclear term "low" has not been replaced by the more precise density values given in claims 3 and 4, respectively.

Moreover, in claims 1, 11 and 13 the method for determining the value of the "intra-particle porosity" is not defined. Thus, it is not possible for the skilled worker to determine the said value when reading the claims. The subject-matter of said claims is therefore unclear (Article 6 PCT), since it is impossible to determine the

matter for which protection is sought so that an undue burden is placed on others seeking to establish the extent of the protection.

In step (b) of claims 1 and 11 and in step (d) of claim 13 the amount of the liquid to be added is defined in terms of the result to be achieved (reduction of the "intra-particle porosity"), rather than in structural terms. Since the actual amount of the liquid to be added is not defined as such, the skilled worker when reading the claims does not know the actual amount of the liquid to be added. The subject-matter of said claims is therefore unclear.

Similarly, in claims 1, 11 and 13 in process step (c) the pressure employed in compacting the particles is defined in terms of the achieved result (the density of the compacted non-particulate detergent product). The actual amount of the applied pressure is not defined as such. Thus, the skilled worker when reading the claims does not know which pressure has to be applied in compacting the particles. The subject-matter of said claims is therefore unclear.

3. The particular combinations of features as claimed in claims 3 and 4 are not referred to in the description. The said claims are therefore not supported by the description as required by Article 6 PCT.
4. In claim 12 the reference "...by a process according to any of claims 1 to 11", must read ".....claims 1 to 10", because claim 11 is not directed to a process but to a product. Similarly in claim 14 it must correctly read "...by a process according to any of claims 1 to 10 and 13", instead of "....claims 1 to 13", since claim 11 is directed to a product and claim 12 is directed to a method of laundering.
5. In independent claim 13 in step (d) there is referred to a "**..said** intra-particle porosity". In the preceding steps (a) to (c) however, an intra-particle porosity is not indicated. Thus, the reference to said intra-particle porosity renders the subject-matter of the claim unclear.
6. The terms "about" and "and the like" used in the description are vague and indefinite.



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C11D 17/00	A1	(11) International Publication Number: WO 99/55821 (43) International Publication Date: 4 November 1999 (04.11.99)
(21) International Application Number: PCT/IB99/00708 (22) International Filing Date: 21 April 1999 (21.04.99) (30) Priority Data: 60/083,206 27 April 1998 (27.04.98) US (71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): ANGELL, Adrian, John, Waynfirth [GB/US]; 6837 Hidden Ridge Drive, West Chester, OH 45069 (US). ZORB, Les, Charles [US/US]; 6674 Paxton Guinea Road, Loveland, OH 45140 (US). STONE, Thomas, Edward [US/US]; 7517 Secret Creek Court, West Chester, OH 45069 (US). (74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).		(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: WATER-DISPERSIBLE NON-PARTICULATE DETERGENT PRODUCT FROM LOW-DENSITY PARTICULATE DETERGENT PARTICLES (57) Abstract A process for producing a water-dispersible non-particulate detergent product from low density particulate detergents includes the step of providing a low density particulate detergent composition having an intra-particle porosity in a range of from about 10 % to about 90 % by volume. The process further includes the step of adding a liquid to the low density particulate detergent composition in an amount sufficient to reduce the intra-particle porosity by at least about 10 %. The process then includes the step of compacting the low density particulate detergent composition having reduced intra-particle porosity by applying a pressure in an amount sufficient to form the water-dispersible non-particulate detergent product having a density of at least about 1000 g/l. This process enables the manufacture of a rapidly dispersing non-particulate detergent product that sinks in water.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 99/00708

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C11D17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 451 386 A (JOSHI DAVID P) 29 May 1984 (1984-05-29) claims	1-12
A	WO 95 20030 A (UNILEVER PLC ;UNILEVER NV (NL)) 27 July 1995 (1995-07-27) claims	1-12
A	DATABASE WPI Section Ch, Week 9434 Derwent Publications Ltd., London, GB; Class D25, AN 94-276042 XP002109040 & JP 06 207199 A (KAO CORP), 26 July 1994 (1994-07-26) abstract	1
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

13 July 1999

Date of mailing of the international search report

28/07/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Grittern, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 99/00708

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>EP 0 576 234 A (UNILEVER PLC ; UNILEVER NV (NL)) 29 December 1993 (1993-12-29) claim 14</p> <p>-----</p>	14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 99/00708

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4451386 A	29-05-1984	US 4370250 A	25-01-1983
		CA 1083004 A	05-08-1980
		CH 634872 A	28-02-1983
		DE 2753573 A	08-06-1978
		FR 2372890 A	30-06-1978
WO 9520030 A	27-07-1995	AU 702040 B	11-02-1999
		AU 1575695 A	08-08-1995
		BR 9506561 A	28-10-1997
		CA 2180433 A	27-07-1995
		DE 69502701 D	02-07-1998
		DE 69502701 T	26-11-1998
		EP 0741776 A	13-11-1996
		ES 2118561 T	16-09-1998
		ZA 9500587 A	25-07-1996
JP 6207199 A	26-07-1994	NONE	
EP 0576234 A	29-12-1993	NONE	